



Johns Hopkins University Research Software Support Network

Needs Analysis: Researchers Writing Software Survey Questions

Introduction

The Open Source Programs Office at JHU is working to create a research software support network connecting research software engineers and researchers who develop software with essential support services across the University.

To ensure the network meets the needs of our community, we're conducting a needs analysis and inviting researchers who write software to participate in a brief survey. For this survey, we're specifically looking to gather feedback from faculty, postdocs, students, and/or staff who write code, scripts, or software as part of the research process, regardless of programming experience or whether they consider themselves software developers. A previous iteration of this survey targeted research software engineers, i.e. full time-software engineers writing code to solve research problems.

If you have colleagues who create research software - regardless of title - we would greatly appreciate you forwarding this survey to them.

Questions

- What school/center/division are you affiliated with?
 - Set List of Schools and high-level Administrative units, e.g. School of Engineering, University Libraries, University Student Services, along with an "other" option
- What specific department, lab, or group are you affiliated with?
 - Short answer / free text

- What is your primary role?
 - Research faculty
 - Teaching faculty
 - Postdoc
 - PhD/Graduate student
 - Undergraduate
 - Staff
 - Other

- How would you describe your programming experience?
 - Beginner/Intermediate/Advanced

- Are you involved in any software development groups or communities, including open source communities, technology specific communities (e.g. Python or R), a lab or department group, or other?
 - Short answer / free text

- Approximately what percentage of your research time involves writing/modifying code?
 - 0-100 slider

- Which programming languages do you primarily use?
 - Python
 - R
 - MATLAB
 - C/C++
 - JavaScript/TypeScript
 - Java
 - Shell scripting (Bash, etc.)
 - Other

- When do you typically realize you need software help?
 - During project planning
 - When I get stuck

- When reviewers request changes
 - When sharing/publishing code
 - Other
- Which of these areas do you currently need help with or expect to need help with? (Select all that apply)
 - Web Development (front-end, back-end, APIs)
 - Containerization and Cloud Computing (Docker, AWS, Azure)
 - Python or R Package Development
 - Databases (SQL, NoSQL, scientific data formats)
 - High-Performance/Parallel Computing (HPC, GPU programming, distributed computing)
 - Reproducible Research Workflows (workflow managers, experiment tracking, documentation)
 - Version Control and Collaboration (Git, code review, making code citable)
 - Data Pipeline Automation (processing large datasets, workflow automation)
 - Machine Learning Operations (model deployment, experiment tracking)
 - Machine Learning/AI Development (building models, training infrastructure, experiment tracking, deployment)
 - AI-Assisted Coding (using ChatGPT, Copilot, or other AI tools for code generation and debugging)
 - Other (please write in)
- How do you currently get help when stuck with coding? (Select all that apply)
 - Web search/Stack Overflow
 - AI
 - Colleagues in my lab/department
 - Personal network
 - Library
 - Research IT
 - Other Central IT units
 - External consultants
 - I don't - I figure it out myself
 - Other

- How would you prefer to receive software support? (Please select your top 3)
 - One-on-one consultations
 - Workshops/training sessions
 - Online documentation/tutorials
 - Code review sessions
 - Pair programming sessions
 - Professional software development support
 - Student software development support
 - Email/chat support
 - Regular office hours
 - Other

- What prevents you from getting software support? (Select all that apply)
 - Don't know where to find help
 - Don't have time
 - Concerns about how requests for help may be perceived
 - Previous help wasn't useful
 - Cost/funding constraints
 - Other

- Would you be interested in: (Likert scale)
 - Regular meetups with other researchers who code
 - A campus-wide Teams channel for research software questions and discussion
 - Peer programming sessions
 - Matching service for code peer reviews
 - Show-and-tell sessions for research code
 - Mentorship programs (as mentor or mentee)
 - Other

- What is your most pressing software-related challenge right now?
 - Short answer / free text

- Would you be willing to participate in a virtual focus group about your work and the research software support network?